Translation Study Guide

1. The three steps of translation are? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. The process in which the genetic information on an mRNA molecule is made use of to make proteins is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is not a process of the translation process.

4. In a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_, transcription goes on in the cells nucleus translation is carried out by ribosomes after the transcribed mRNA enters the cell’s cytoplasm.

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ involves the small subunit of the ribosome binding to 5’ end of mRNA.

6. Three unpaired bases. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Translation Steps:

A:

1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ attaches to an mRNA molecule in the cytoplasm.

2. Each \_\_\_\_\_\_\_\_ molecule carries just one kind of amino acid.

3. In addition each \_\_\_\_\_\_\_\_ molecule has \_\_\_\_\_\_\_\_\_ unpaired bases collectively called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is complementary to one mRNA codon.

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ means to go together.

6. In the case of the tRNA molecule for methionine, the anticodon is \_\_\_\_\_\_\_\_\_\_, which pairs with the methionie codon, \_\_\_\_\_\_\_\_\_\_\_\_.

B:

1. The ribosome helps form a \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ between the first and second amino acids.

2. Then that tRNA then moves into a \_\_\_\_\_\_\_\_\_\_\_ binding site, from which it exits the ribsome.

3. The ribosome then moves to the \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_, where \_\_\_\_\_\_\_\_ brings it the amino acid specified by the third codon.

C:

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ continues to grow until the ribsome reaches a stop \_\_\_\_\_\_\_.

2. Releases both the newly formed polypeptide and the \_\_\_\_\_\_\_\_\_ molecule, completing the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

RNA:

1. What are the three forms of RNA? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. What does mRNA do?

3. What delivers exactly the right amino acid for the mRNA, and enables the ribosome to read the mRNA’s message accurately and to get the translation just right?

4. What is rRNA?

5. Ribosomes are composed roughly of \_\_\_\_\_ proteins.